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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/709,253	04/23/2004	Brendan Coffey	031075	3252

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EXAMINER
MARTIN, ANGELA J

ART UNIT	PAPER NUMBER
1745	

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09/18/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/709,253	COFFEY ET AL.	
	Examiner	Art Unit	
	Angela J. Martin	1745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 July 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-45* is/are pending in the application.

4a) Of the above claim(s) *19-22 and 25-45* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-18,23 and 24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *4/23/04* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Claims 19-22, 25-45 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 7/19/07.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-8, 10, 23, 24 are rejected under 35 U.S.C. 102(b) as being anticipated by Urry, U.S. Pat. No. 2,970,180.

Rejection of claims 1-9, 10, 23, 24 drawn to an electrochemical battery cell.

An electrochemical battery cell comprising: a cell housing defining an inner space, a first terminal and a second terminal; and at least one pre-formed pellet disposed within the inner space of the cell housing, the pellet comprising: an outer electrode portion formed from a material to geometrically define the pellet in a solid form, the outer electrode portion in electrical communication with the first terminal of the cell housing; and an inner electrode encapsulated by a separator and embedded within

the material of the outer electrode portion, the inner electrode in electrical communication with the second terminal of the cell housing and electrically insulated from the outer electrode portion (col. 3, lines 50-69). The battery cell of claim 1, wherein the inner electrode comprises a thin and substantially flat structure in a coiled configuration (col. 5, lines 1-3). The battery cell of claim 1, wherein the inner electrode includes an electrical lead to facilitate electrical communication with the negative terminal of the cell housing (col. 3, lines 63-69). The battery cell of claim 1, wherein the inner electrode comprises an anode and the outer electrode portion comprises a cathode portion, and wherein the first terminal has a positive polarity and the second terminal has a negative polarity (col. 3, lines 50-69). The battery cell of claim 4, wherein the anode comprises a thin and substantially flat structure in a coiled configuration (col. 2, lines 66-69). The battery cell of claim 4, wherein the anode includes an electrical lead to facilitate electrical communication with the negative terminal of the cell housing (col. 3, lines 64-69). The battery cell of claim 4, wherein the anode comprises a material selected from the group consisting of zinc, metallic zinc; and wherein the cathode portion comprises MnO.sub.2 (col. 2, lines 6-10). The battery cell of claim 4, the material of the cathode portion consisting essentially of: MnO.sub.2; a conductive powder; and an additive selected from the group consisting of a binder, and combinations thereof (col. 2, lines 22-26). The battery cell of claim 4, further comprising a current collector embedded within the within the material of the cathode portion (col. 3, lines 51-58). An electrochemical battery cell comprising: a cell housing defining an interior space; a positive terminal and a negative terminal connected to the cell housing

and having a portion disposed exteriorly the cell housing; and at least one pre-formed pellet disposed within the interior space of the cell housing, the pellet comprising a cathode portion and an anode encapsulated by a separator, the pellet being formed by embedding the anode into a material used to form the cathode portion and forming the cathode portion to geometrically define the pellet the cathode portion in electrical communication with the positive terminal of the cell and the anode in electrical communication with the negative terminal of the cell (col. 3, lines 51-69). The battery cell of claim 23, wherein the pellet further comprises a current collector embedded the within the material used to form the cathode portion (col. 3, lines 51-58).

Thus, the claims are anticipated.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 11-16, 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Urry, U.S. Pat. No. 2,970,180, in view of Mori et al., U.S. Pat. No. 6,586,907 B1.

Urry teaches an electrochemical battery as described above.

Urry does not teach a plurality of pellets.

Mori et al., teach an electrochemical battery cell comprising: a cell housing defining an inner space, a positive terminal and a negative terminal; and a plurality of pre-formed pellets disposed within the inner space of the cell housing, each of the pellets comprising: a cathode portion formed from a material to geometrically define the pellet in a solid form, the cathode portion in electrical communication with the positive terminal of the cell housing; and an anode encapsulated by a separator and embedded within the material of the cathode portion, the anode in electrical communication with the negative terminal of the cell housing and electrically insulated from the cathode material (col. 8, lines 53-65). The battery cell of claim 11, wherein the cathode portion of each of the plurality of pellets is in direct electrical contact with the cathode portion of at least one of the other pellets (Fig. 8). The battery cell of claim 11, wherein the anode of each of the plurality of pellets includes an electrical lead, the electrical lead of the anode of each of the plurality of pellets being in direct electrical contact with one of either the electrical lead of the anode of one of the other pellets or the negative terminal of the cell housing (Fig. 8). The battery cell of claim 11, wherein the anode comprises a thin and substantially flat structure in a coiled configuration. The battery cell of claim 11, wherein the anode comprises a material selected from the group consisting of metallic zinc (col. 8, lines 61-65). The battery cell of claim 11, the material of the cathode portion consisting essentially of: MnO2; a conductive powder; and an additive selected from the group consisting of an electrolyte (col. 8, lines 56-61).

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to insert the teachings of Mori et al., into the teachings of

Urry because Mori et al., teaches more than one pellet, which would provide increased electrochemical power.

6. Claim 9 rejected under 35 U.S.C. 103(a) as being unpatentable over Urry, U.S. Pat. No. 2,970,180, in view of Marple, U.S. Pat. No. 4,585,715.

Urry teaches an electrochemical battery as described above.

Urry does not teach the amounts of the cathodic materials.

Marple teaches about 88 percent by weight of MnO2; about 8 percent by weight of a conductive powder; and about 4 percent by weight of an additive (3 percent electrolyte and 1 percent binder) selected from the group consisting of a binder, an electrolyte and combinations thereof.

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to insert the teachings of Marple into the teachings of Urry because Marple teaches the conventional amounts of MnO2, conductive powder and additive in a MnO2-Zn cell.

7. Claim 17 rejected under 35 U.S.C. 103(a) as being unpatentable over Urry, U.S. Pat. No. 2,970,180, in view of Marple, U.S. Pat. No. 4,585,715, in further view of Mori et al., U.S. Pat. No. 6,586,907 B1.

Urry teaches an electrochemical battery as described above.

Urry does not teach the amounts of the cathodic materials.

Mori et al., teaches a plurality of pellets in the electrochemical cell.

Marple teaches about 88 percent by weight of MnO2; about 8 percent by weight of a conductive powder; and about 4 percent by weight of an additive (3 percent

electrolyte and 1 percent binder) selected from the group consisting of a binder, an electrolyte and combinations thereof.

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to insert the teachings of Mori et al., and Marple into the teachings of Urry because Mori et al., teach a plurality of pellets for increased power generation and Marple teaches the conventional amounts of MnO2, conductive powder and additive in a MnO2-Zn cell.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. McEvoy et al., U.S. Pat. No. 6,060,197, teach a zinc based electrochemical cell.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Angela J. Martin whose telephone number is 571-272-1288. The examiner can normally be reached on Monday-Friday from 9:00 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AJM